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ABSTRACT

Two experiments were conducted to assess the influences of two individual variables--verbal aptitude and writing apprehension--on the production of persuasive arguments by college students. Subjects were 47 college students who wrote preliminary and final drafts of persuasive letters. Results of both experiments revealed that the students' verbal SAT scores were positively correlated with their preliminary draft argument production. In addition, the students' writing apprehension scores were negatively correlated with their verbal SAT scores and with their preliminary draft argument production, but not significantly so. In general, the findings provide some support for those educators who believe that students' verbal SAT scores should be taken into consideration when predictions are made about their actual writing ability and when decisions are made about placing them in advanced writing courses. (Author/FL)

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Influence of Verbal SAT and Anxiety on Persuasive Writing

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Abstract

In two experiments, college students were asked to produce preliminary and final drafts of persuasive letters. In both experiments, the students' verbal SAT scores were positively correlated with their preliminary-draft argument production. In addition, the students' evaluation anxiety (Writing Apprehension Scale) scores were negatively correlated with their verbal SAT scores and with their preliminary-draft argument production, but not significantly so. In general, the findings provide some support for those teachers who believe that students' verbal SAT scores should be taken into consideration when predictions are made about students' actual writing ability and when decisions are made about placing incoming students in advanced writing courses.

Persuasive Writing: Influence of Verbal Aptitude and Evaluation Anxiety on Argument Production

Systematic assessments conducted by the National Assessment of Educational Progress (1979) reveal that the persuasive writing skills of 17-year olds have declined over the course of the past five years. This is unfortunate because many occupations require individuals to spend a significant amount of time producing persuasive documents. For example, lawyers write legal briefs to influence judges and jurists, politicians write campaign speeches to influence their constituents, and advertisers write slogans and jingles to influence consumers.

The writer of a persuasive document faces a particularly challenging task. Unlike the writer of a referential document who only attempts to describe world events, the writer of a persuasive document attempts to initiate or change such events. By selectively manipulating facts and relationships among facts, the writer of a persuasive letter, memo, or technical report hopes to prompt some choice or action from an audience.

In an earlier study (Glynn, Britton, Muth, & Dogan, in press), we asked college students to produce preliminary and final drafts of a persuasive letter. For all students, the preliminary-draft arguments that were transferred during revision constituted the majority of final-draft arguments; comparatively few new arguments were constructed when writing the final draft. Thus, these students revised by culling their final-draft arguments from their pool of preliminary-draft arguments. In a sense, the pool of preliminary-draft arguments represented a <u>population</u> of potentially useful arguments. The students sampled from this population when they wrote their final drafts.

The generation of a large pool of arguments during the prewriting or preliminary-draft stage of a persuasive writing task probably benefits students in several ways. For example, if the students do not have to generate arguments on the final draft, then they can devote all of their attention to other operations such as sequence (organization), sentence structure, and mechanics (spelling, punctuation, and optimal word choice). In addition, if the students have a large number of alternatives to work with during revision,

then they can be more discriminating about the arguments they decide to include in their final drafts.

A student who can generate a large pool of arguments in a relatively short period of time is ideationally fluent (Guilford, 1967; Torrance, 1975). On a persuasive writing task such as that used in the Glynn et al. study, a given student will occupy a position on a continuum of fluency. The student who generates a large number of plausible arguments in a given time frame will occupy a position high on the continuum. The student who generates no arguments or a relatively small number of arguments will occupy a position low on the continuum: it is this student who suffers from the condition known as writer's block (Rose, 1980).

In the present experiments, college students were asked to write persuasive letters. The intent behind these experiments was to assess the influences of two individual difference variables, verbal aptitude and evaluation anxiety, on the production of persuasive arguments. It was assumed that the construction of persuasive arguments imposes formidable cognitive demands on students, particularly on their verbal reasoning ability. The students' scores on the verbal section of the Scholastic Aptitude Test (SAT) served as a rough index of their verbal reasoning ability: the verbal section of the SAT includes analogies, antonyms, sentence completions, and a variety of literal and inferential reading comprehension questions.

It was also assumed that the construction of persuasive arguments imposes formidable affective demands on students, particularly on those who typically fear evaluation of their writing. Daly and his colleagues (Daly, 1978; Daly & Miller, 1975a, 1975b, Daly & Shamo, 1978) have studied the "writing apprehension" of college students. They believe:

> There may be a large number of individuals who fail miserably in an environment where writing is demanded because of an apprehension or anxiety about writing. In a very general sense, these individuals are those who find the demand for writing competency exceedingly frightening (Daly & Miller, 1975a, p. 244).

In the present experiments, the students' scores on Daly and Miller's (1975a) Writing Apprehension Scale served as a measure of their evaluation anxiety.

Experiment 1

In this experiment, college students persuaded their instructors by means of formal, business-type letters to use a lab class for one activity and not another. Each student wrote two drafts, a preliminary and a final.

There were three hypotheses. First, it was hypothesized that verbal reasoning ability would facilitate persuasive argument production: that is, verbal SAT scores would be positively correlated with argument production. Second, it was hypothesized that evaluation anxiety would inhibit persuasive argument production: that is, anxiety scores would be negatively correlated with argument production. And third, since students with relatively low verbal reasoning ability could be justifiably anxious about their writing being evaluated, it was hypothesized that students' verbal SAT scores would be negatively correlated with their anxiety scores.

Method

Subjects. The subjects were 26 undergraduates (15 females and 11 males) enrolled in introductory education classes at a large state university. All participated on a voluntary basis.

Scholastic Aptitude Test. The verbal SAT scores were obtained from the university registrar with the permission of the subjects.

Writing Apprehension Scale. Daly and Miller's (1975a) Likert-type scale contains 66 items (e.g., "I feel confident of my ability to clearly express my ideas in writing," "I like seeing my thoughts on paper," and "I don't think I write as well as most other people"). Scale scores range from a low of 26 to a high of 130 (for Daly & Miller's subjects, M = 79.28 and SD = 18.86). The scale has a test-retest reliability coefficient of .92. In addition, those individuals who score high on the scale tend to select academic majors and jobs which are perceived, by them, to have low writing requirements (Daly & Miller, 1975a; Daly & Shamo, 1978).

In the present study, the Writing Apprehension Scale was administered to the subjects one week in advance of the persuasive writing task.

Procedure. The procedure was identical to that used in our earlier study (Glynn, et al., in press). The subjects' task was to persuade their instructor, by means of a formal business-type letter, to use a future lab class for either a content-related film (alternative one) or a library-reading session (alternative two). Our past experience suggested that both of these "lab day" activities were quite acceptable to all subjects. In addition, the findings of our earlier study indicated that these two activities were equally arguable alternatives.

Freedom to choose one activity over the other was an important component of the letter-writing task, because without such freedom, there was less assurance that subjects would be motivated to persuade effectively. Subjects were further motivated by the knowledge that their arguments truly would have an impact on their audience's decision:

> Your instructor will read your letters carefully. Decisions about which activity (film or library reading) is the best choice for the next lab class will be determined by the quantity and quality of sensible, persuasive arguments you can communicate. Your arguments must convince your instructor to do one activity and not the other.

In groups of three to six, each subject wrote two 10-minute drafts, a preliminary and a final, that were separated by a five-minute rest period. Because the people who write letters in applied settings usually work under time constraints, the writing time of subjects was controlled. Subjects budgeted their time (with stopwatches) to ensure that they finished each draft within the allotted period of time. During the rest period, subjects were permitted to get up out of their seats; however, they were not allowed to talk to one another. Subjects understood that their final drafts would be written when the rest period was over. Preliminary-draft materials were made available to all subjects during final-draft construction.

Preliminary-draft instructions. Subjects read the following:

> Communicate all the ideas that you think may be useful in persuading me to choose one alternative and not the other. Communicate your ideas in the rough-draft format that you normally prefer to use. For example, some people simply list raw ideas or construct outlines, while others prefer to generate their ideas in sentence form.
>
> Budget your time to ensure that you finish this initial draft in the ten minutes provided. On the final draft, you will have another opportunity to improve your ideas.

Final-draft instructions. Subjects read the following:

> Try to produce the best letter you can on this final draft. You need to be concerned with content (i.e., the presentation of persuasive ideas), order (i.e., the logical sequence of these ideas), sentence formation (i.e., the incorporation of these ideas into sentences), and mechanics (i.e., compliance with punctuation and spelling rules).
>
> Communicate all the ideas that you think may be useful in persuading me to choose one alternative and not the other. More than one persuasive idea can be incorporated into each sentence.
>
> Make any changes (additions, deletions, and substitutions) of preliminary-draft ideas that you think will improve this final version. You may refer back to your first draft; however, do not put any marks on that first draft.

Performance measures. The content of the preliminary and final drafts was analyzed by means of Kintsch's (1974, in press) propositional analysis system. Those propositions that complemented the implied or explicit statement, "This alternative is preferred (or not preferred) because . . ." were designated persuasive arguments. For example, a writer who favors a content-related film may argue "a film helps me to picture what I must actually do in a classroom setting" or "a library reading session will not command my attention the way a film would." Similarly, a writer who favors a library reading session may argue "a library reading session allows me to decide for myself which content merits emphasis" or "a film doesn't permit me to learn at my own pace (the way a library reading session would)." A writer received credit only for those arguments that were plausible and

logical. The interrater reliability for argument identification was .88.

Two structural characteristics of the final drafts alone were also assessed: sentence production (total number of sentences produced) and mechanics errors (punctuation plus spelling errors per sentence).

Results and Discussion

Means and standard deviations were computed for the two independent variables (verbal SAT and evaluation anxiety) and the four dependent variables (preliminary-draft arguments, final-draft arguments, final-draft sentences, and final-draft mechanics errors). Next, the variables that were correlated significantly with one another were identified.

Means and standard deviations. The college students' verbal SAT scores ranged from 260 to 680 (M = 459.62; SD = 99.06). Their Writing Apprehension Scale scores ranged from 34 to 106 (M = 65.65; SD = 18.24).

The students' production of preliminary-draft arguments ranged from 2 to 15 (M = 6.15; SD = 3.72) and their presentation of final-draft arguments ranged from 2 to 14 (M = 5.42,; SD = 3.20). For each subject, about 92% of the arguments presented on the final draft were preliminary-draft arguments that had been transferred during revision; only a few new arguments were constructed during revision.

On the final draft, the number of sentences ranged from 6 to 21 (M = 10.65; SD = 3.49) and the number of mechanics errors per sentence ranged from 0 to 7 (M = 2.15; SD = 1.62).

Pearson Product-moment Correlations. As can be seen in Table 1, the

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Insert Table 1 about here

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students' verbal SAT scores were positively correlated with their preliminary-draft argument production. In addition, the students' preliminary-draft argument production, final-draft argument production, and final-draft sentence production were positively correlated with one another.

Experiment 2

The findings of the previous experiment provided support for the hypothesis that students rely on their verbal reasoning ability when producing a pool of persuasive arguments: the students' verbal SAT scores were positively correlated with their preliminary-draft argument production ($r = .48$, $p < .05$). The findings provided only marginal support, however, for the hypothesis that students with relatively low verbal reasoning ability are anxious about their written ideas being evaluated: as expected, the students' verbal SAT scores were negatively correlated with their anxiety scores ($r = -.32$), but the correlation was not significant. Finally, there was no support for the hypothesis that evaluation anxiety can interfere with students' efforts to produce a pool of persuasive arguments: the students' anxiety scores were not correlated with their preliminary-draft argument production ($r = -.01$).

In the previous experiment, students generated a pool of preliminary-draft arguments in the rough draft format that they normally prefer to use. An inspection of those preliminary-drafts revealed that students varied considerably in the formats they used. Many students summarized each of these arguments using a few key words: some of these students simply listed these abbreviated idea units, while others arranged them in outlines and diagrams. The rest of the students preferred to encapsulate their arguments in complete sentences: some of these students listed their sentences, while

others wrote them in paragraphs in an apparent attempt to draft a "finished product" on their first try.

Students' evaluation anxiety can influence their argument generation only when the persuasive writing task actually activates or arouses that anxiety. In the previous experiment, evaluation anxiety might have been aroused in some students, but not in others. In particular, it might have been aroused in those students who produced arguments in the form of a list, outline, or diagram of idea units. When arguments are in the form of idea units, students cannot avoid confronting and scrutinizing their arguments (which arouses anxiety in susceptible students). On the other hand, evaluation anxiety might not have been aroused in those students who encapsulated their arguments in sentences and their sentences in paragraphs. When arguments are contained in a context of sentences, students can avoid confronting their arguments (and arousing their anxiety).

In Experiment 2, all students were required to produce their preliminary-draft arguments in the form of a list of three- or four-word idea units. This requirement was intended to help students confront and scrutinize their arguments. It was also intended to arouse students' evaluation anxiety. Under these circumstances, anxiety was expected to interfere with the students' production of a pool of preliminary-draft arguments: in other words, students' evaluation anxiety scores and their preliminary-draft argument production would be negatively correlated.

Method

Subjects. The subjects were 21 undergraduates (12 females and 9 males) enrolled in introductory education classes. All participated on a voluntary basis.

Procedures. The procedures for obtaining verbal SAT scores and Writing Apprehension Scale scores were the same as those used in Experiment 1. In addition, the initial instructions were the same as those used in Experiment 1: Subjects were told to persuade their instructor, by means of a formal business-type letter, to use a future lab class for either a content related film (alternative one) or a library reading session (alternative two).

Preliminary-draft instructions. In the idea-unit format, subjects satisfied only a content demand. They were instructed to produce their arguments in the form of unordered, raw ideas:

> On this preliminary-draft you need to be concerned only with content (i.e., the production of persuasive ideas). Communicate all the ideas that you think may be useful in persuading me to choose one alternative and not the other. Summarize each of these persuasive ideas using only three or four words, and write them in any order.
>
> On this draft, do not attempt to work on order (i.e., the logical sequence of persuasive ideas), sentence formation (i.e., the incorporation of these ideas into sentences), or mechanics (i.e., compliance with punctuation and spelling rules). You will be permitted to work on order, sentence formation, and mechanics during the next draft.
>
> Budget your time to ensure that you finish this initial draft in the ten minutes permitted. On the final draft, you will have another opportunity to improve your ideas.

Final-draft instructions. These instructions were the same as those used in Experiment 1: All subjects were told to construct a finished product with attention given to argument production, order, sentence formation, and mechanics. Preliminary-draft materials were available to all subjects during final-draft construction.

Results and Discussion

Means and standard deviations were computed for the two independent variables and the four dependent variables. Next, the variables that were correlated significantly with one another were identified.

Means and standard deviations. The college students' verbal SAT scores ranged from 270 to 590 (M = 419.05; SD = 92.68). Their Writing Apprehension Scale scores ranged from 26 to 110 (M = 65.81; SD = 19.59).

The students' production of preliminary-draft arguments ranged from 2 to 18 (M = 6.62; SD = 3.58) and their presentation of final-draft arguments ranged from 1 to 15 (M = 5.95, SD = 3.71). For each subject, about 88% of the arguments presented on the final draft were preliminary-draft arguments. As was the case in Experiment 1, only a few new arguments were constructed.

On the final draft, the number of sentences ranged from 6 to 18 (M = 9.29, SD = 2.81) and the number of mechanics errors per sentence ranged from 0 to 5 (M = 1.76; SD = 1.70).

Pearson Product-moment correlations. As can be seen in Table 2, the

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Insert Table 2 about here

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students' verbal SAT scores were positively correlated with their preliminary-draft argument production and positively correlated with their final-draft

argument production. In addition, the students' preliminary-draft argument production, final-draft argument production, and final-draft sentence production were positively correlated with one another.

General Discussion

In general, the findings of Experiments 1 and 2 suggest that the production of persuasive letters imposes formidable cognitive demands on college students. In particular, there was strong support for the hypothesis that students rely on their verbal reasoning ability when generating a pool of persuasive arguments: in both experiments, increments in the students' verbal SAT scores were associated with increments in their preliminary-draft argument production. Thus, the students with relatively high verbal SAT scores exhibited ideational fluency; those with relatively low verbal SAT scores exhibited to some extent "writer's block."

In the present experiments, the students' pool of persuasive arguments represented a population of potentially useful arguments. The students sampled from this population when they wrote their final drafts.

Most of the students who participated in these experiments reported afterward that they sampled their "highest quality" arguments from their populations. In addition, an inspection of their drafts suggested that those students who generated a large population of preliminary-draft arguments were the ones who had the "highest quality" final-draft arguments; however, we did not quantify either the students' impressions or our own.

It was relatively easy to distinguish between those arguments that were plausible and logical and those that were not; however, more sophisticated

distinctions of technical quality were not possible because objective criteria have not yet been developed and validated.

In order to develop criteria for technical quality, the components of a high-quality argument that distinguish it from an argument of lower quality must be identified. We are now considering components suggested by Toulmin (1958): he believes that technically sophisticated arguments include supporting details that provide "backing" and qualifiers that specify prerequisite conditions. We are developing criteria for technical quality rather than "persuasive quality" because perceptions about the persuasiveness of an argument vary greatly from individual to individual and from group to group.

In Experiment 1, those students who preferred to generate preliminary-draft arguments in a context of sentences were permitted to do so. Under these circumstances, many students were able to avoid scrutinizing their arguments and arousing their evaluation anxiety: consequently, no relationship was found between the students' anxiety scores and their preliminary-draft argument production ($r = -.01$). In Experiment 2, on the other hand, the students generated preliminary-draft arguments in the abbreviated form of idea units. The use of this form increased the likelihood that students would confront and scrutinize their arguments. There was some indication that this form aroused the students' evaluation anxiety: the relationship between the students' anxiety scores and their preliminary-draft argument production increased in the expected direction ($r = -.28$), but the relationship still fell short of significance. The hypothesis that evaluation anxiety can interfere with students' efforts to produce a pool of persuasive arguments merits further empirical attention. In particular, persuasive writing tasks that demand a large amount of ego involvement and self disclosure from students should be examined.

The hypothesis that students with relatively low verbal reasoning ability are anxious about their written ideas being evaluated also merits further attention: as expected, increments in the students' verbal SAT scores were associated with decrements in their evaluation anxiety scores in both Experiment 1 ($r = -.32$) and Experiment 2 ($r = -.28$), but not significantly so. In a future study, we will examine this hypothesis again. We will use a larger number of students and we will ask each student to produce several writing samples. If a significant relationship is found between the students' verbal SAT scores and their evaluation anxiety scores, then it will demonstrate that students' verbal aptitudes can influence their writing attitudes.

In conclusion, the findings of the present experiments provide support for those teachers who believe that students' verbal SAT scores should be taken into consideration when predictions are made about students' actual writing ability and when decisions are made about placing incoming students in advanced writing courses. The findings also provide some support for teachers who believe that students with poor verbal aptitudes frequently have poor writing attitudes. Of course, there will always be a few students who have adequate verbal aptitudes, but because of "personality quirks" are <u>unreasonably</u> anxious about their writing being evaluated. Writing teachers are encouraged to use an evaluation anxiety scale, such as that developed by Daly and Miller, to identify those students.

References

Daly, J. A. Writing apprehension in the classroom: Teacher role expectancies of the apprehensive writer. Research in the Teaching of English, 1978, 12, 37-44.

Daly, J. A., & Miller, M. D. The empirical development of an instrument to measure writing apprehension. Research in the Teaching of English, 1975, 9, 242-249 (a).

Daly, J. A., & Miller, M. D. Further studies in writing apprehension: SAT scores, success, expectations, willingness to take advanced courses and sex differences. Research in the Teaching of English, 1975, 9, 249-253 (b).

Daly, J. A., & Shamo, W. Academic decisions as a function of writing apprehension. Research in the Teaching of English, 1978, 12, 119-126.

Glynn, S. M., Britton, B. K., Muth, K. D., & Dogan, N. Writing and revising persuasive documents: Cognitive demands. Journal of Educational Psychology, in press.

Guilford, J. The nature of human intelligence. New York: McGraw-Hill, 1967.

Kintsch, W. The representation of meaning in memory. Hillsdale, N. J.: Lawrence Erlbaum Associates, 1974.

Kintsch, W. Psychological Processes in discourse production. In H. W. Dechert & M. Raupach (Eds.), Psycholinguistic models of production. Hillsdale, N. J.: Lawrence Erlbaum Associates, in press.

Rose, M. Rigid Rules, inflexible plans, and the stifling of language: A cognitivist analysis of writer's block. College Composition and Communication, 1980, 31, 389-401.

Torrance, E. Creativity research in education: Still alive. In I. Taylor & J. Getzels (Eds.), Perspectives in creativity. Chicago: Aldine, 1975.

Toulmin, S. The uses of argument. London: Cambridge University Press, 1958.

Table 1

Pearson Product-moment Correlations (Experiment 1)

Variable	1	2	3	4	5	6
1. Verbal SAT		-.32	.48*	.16	.35	-.16
2. Evaluation Anxiety			-.01	.18	-.28	.17
3. Preliminary-draft Arguments				.72**	.67**	.01
4. Final-draft Arguments					.66**	.27
5. Final-draft Sentences						.34
6. Final-draft Mechanics Errors						

*$p \leq .05$ **$p < .01$

Note: Levels of significance are for two-tailed tests.

Table 2

Pearson Product-moment Correlations (Experiment 2)

Variable	1	2	3	4	5	6
1. Verbal SAT		-.28	.58**	.55**	.45*	-.39
2. Evaluation Anxiety			-.28	-.40	-.17	.13
3. Preliminary-draft Arguments				.84**	.44*	-.15
4. Final-draft Arguments					.70**	-.17
5. Final-draft Sentences						-.22
6. Final-draft Mechanics Errors						

*$p < .05$ **$p < .01$

Note: Levels of significance are for two-tailed tests.